

Again, Prof. Haeckel's illustrations of his genera *Haliphy-nema* and *Gastrophysema* (*op. cit. l. c.*) appear to me to be more fitted for a "caravan" at a fair than for scientific purposes. And when we come to the latter genus (p. 24, Taf. iv.-vi.), with which my *Squamulina scopula* is identified, we find that the cavity of the body does *not* extend to the discoid foot (the pseudopolythalamous nature of which tubulated into the body of the erect portion is the most striking feature of its foraminiferous nature), but is altogether absent.

What are we to say of this? Are we to infer that it has been omitted by mistake, or are we here to apply my words, which Prof. Haeckel (at p. 6) has also held up to derision, viz.:—"Mental operations are seldom so correct as visual ones"?—words which I applied to one who had mistaken the polyps on the cord of *Hyalonema Sieboldii* for the "oscula" of this sponge; or are we to say, as a German naturalist wrote to me in a similar case, "One knows not ("ob man darüber lachen oder sich ärgern soll") whether one ought to laugh or to be angry."

Such a course may suit Prof. Haeckel for his "*Gastræa-Theorie*," but not those who want to possess an accurate knowledge of species, which, I presume, would be the test of a candidate's knowledge under examination, before that of the *Gastræa*-theory!

It may do very well for Prof. Haeckel to puff off his *Gastræa-Theorie*" at another's expense, with a "flourish of trumpets" and huge caravan-like diagrams (not a bit less frequent in this country than in Germany); but it does not make me the less regret that any part of the 'Challenger' collections should have ever been placed in his hands for description and illustration.

XLV.—*Descriptions of Ceylon Lepidoptera.*

By F. MOORE, F.Z.S.

RHOPALOCERA.

Fam. *Nymphalidæ*.

Neptis disrupta.

Female. Upperside black: fore wing with whitish discoidal streak and triangular terminal spot; three spots from middle of hind margin and a fourth smaller spot beyond the trian-

gular discoidal spot; between this series and a submarginal series of somewhat conical spots is a discal series of indistinct pale dusky oblique spots; a linear marginal row of narrow indistinct dusky streaks: hind wing with a discal white maculated band, a quadrate spot on abdominal margin near the base, and two narrow parallel spots and streak on anterior margin; a linear row of marginal white streaks. Underside dull ferruginous, with black-bordered white markings as above, and black confluent spots across disk of both wings.

Exp. $2\frac{1}{8}$ inches.

Hab. Ceylon. In coll. F. M. Mackwood.

Fam. *Lycanidæ*.

Lampides lithargyria.

Male. Upperside greyish silvery-blue, with very narrow marginal black border: hind wing with two triangular spots from anal angle. Cilia white, with dusky marginal inner line. Underside white: fore wing with broad greyish brown spot at end of the cell, a transverse discal maculated band with a contiguous spot at upper end, a narrower submarginal band, and very indistinct marginal lunules: hind wing with two prominent black costal spots, two greyish brown subbasal spots, a broad spot at end of the cell, a curved discal macular band, a marginal series of lunular spots enclosed by a broad dentate band, the penultimate spot being black and bordered above with ochreous.

Exp. $1\frac{2}{10}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Allied to *L. kandarpa*, Horsf. (also from Ceylon), but of an entirely different colour above and beneath, and the markings of underside all much broader. Also allied to *L. platissa*, H.-S., from Australia.

Lampides viola.

Male. Upperside dark violet-blue; both wings with narrow black marginal line. Cilia whitish at the edge. Underside violet-grey; both wings with six broken very pale narrow delicate whitish bands, the two inner and outer bands on the fore wing short: a small black anal and large subanal spot, speckled with blue and ochreous-bordered. Female smalt-blue in middle of the fore wing: hind wing with indistinct marginal row of pale-bordered black spots.

Exp. ♂ $\frac{9}{10}$, ♀ 1 inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Lampides coruscans.

Male. Upperside brilliant glistening cobalt-blue: fore wing with very narrow black speckle-bordered marginal band: hind wing with narrow black marginal line and speckled black spots. Cilia black, with whitish outer edge on fore wing and inner white line on hind wing. *Female* greyish blue: fore wing with black outer band, which is confined to the apex and outer margin: hind wing with blackish anterior border and submarginal dentate band enclosing marginal row of black spots. Underside pale leaden-grey: fore wing with two narrow white transverse discal lines, a short upper intermediate streak, a short outer line, a double marginal row of white dentate marks with blackish intermediate space, and marginal line: hind wing with several interrupted narrow white transverse lines, a submarginal prominent double dentate line with black intermediate space, and marginal line; a large subanal ochreous-bordered black spot.

Exp. $1\frac{2}{10}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Allied to *L. pluto*, but of a less glittering colour and without the broad black band in the male.

Lampides prominens.

Male. Upperside violet-blue, with very narrow indistinct brown marginal line.

Female paler, the basal part brilliant greyish blue: fore wing with the costal border and outer margin broadly black: hind wing with the costal border broadly black, and a marginal row of black spots enclosed by a lunular line. Underside pale greyish brown, crossed by five prominent dark-bordered white, slightly waved bands, an intermediate short band at end of the cell, and two marginal blackish-interspaced bands, the inner one sinuous: hind wing crossed by six broken white bands; two marginal blackish-interspaced sinuous bands; a large subanal and small anal black spot, both silvery-speckled and ochreous-bordered. Allied to *L. beroë*, Feld.

Exp. $1\frac{2}{10}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Polyommatus lavendularis.

Male. Upperside dark lavender-blue, with an extremely narrow black outer marginal border.

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Female brighter, but paler blue: fore wing with the base of the costa and an outer band black: hind wing with black anterior border and marginal row of prominent pale-bordered black spots. Cilia white, with inner black border. Underside greyish white: fore wing with dusky-black streak at end of the cell, a discal series of oblique spots, and marginal row of small spots enclosed by a dentated line: hind wing with three black subbasal spots, a curved series of seven discal spots, and a marginal row of spots enclosed by a dentate line.

Exp. ♂ $1\frac{1}{10}$, ♀ $1\frac{3}{10}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Allied to *P. puspa*, Horsf.; differs from Ceylon specimens above in its uniform colour and absence of the broad black borders.

Polyommatus lanka.

Male. Very dark blue. Cilia white, with blackish inner marginal border. Underside white: fore wing with a dusky brown streak at end of the cell, a submarginal transverse linear row of four linear spots, a spot near the costa, and a marginal row of dentate spots: hind wing with two equidistant brown spots on anterior border, a spot within and streak at end of cell, a curved discal series of five spots, two lunate marks on abdominal border, and an outer marginal row of dentate spots. Tibiæ and tarsi with black bands. Near to *P. kasmira*.

Exp. $1\frac{3}{10}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Polyommatus singalensis.

Feld. Verh. z.-b. Ges. 1868, p. 282.

Male. Light blue. Cilia white with blackish inner border. Underside white: fore wing with dusky brown streak at end of the cell, a submarginal series of five slightly-recurved dentate spots, a spot near the costa, and a marginal row of small spots enclosed by an inner row of dentate lunules: hind wing with three subbasal spots, a spot on costa beyond middle, a spot within and streak at end of the cell, a curved discal series of five irregular-shaped spots, a curved streak above anal angle, and marginal row of small spots enclosed by dentate lunules. Tibiæ and tarsi black streaked above. Near to *P. kasmira*.

Exp. $1\frac{4}{10}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Fam. Hesperidæ.

Tagiades minuta.

Male and female. Upperside dark olive-brown. Cilia of hind wing white, of fore wing slightly whitish at posterior angle. Underside—fore wing greyish white on middle of hind margin: hind wing greyish white, except along exterior border; a small blackish spot at end of the cell, and a median discal series of spots; outer margin brown-speckled. Palpi, body, and legs beneath grey-white. Legs above brown.

Exp. ♂ $1\frac{1}{8}$, ♀ $1\frac{1}{2}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

HETEROCERA.

Fam. Zygaenidæ.

Phacusa thoracica.

Wings transparent: fore wing with narrow purple-black costal and hind border, a broad band at the apex, a triangular patch on exterior margin, and a broad spot at end of the cell: hind wing with narrow purple-black anterior and outer borders. Head and thorax above purple-black; hind part of thorax above and entire thorax beneath brilliant red; abdomen steel-blue above, green below. Antennæ with white tip. Femora brown; tibiæ and tarsi varied blue and green.

Exp. $1\frac{1}{10}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Fam. Chalcosidæ.

Eterusia cingala.

Male and female. Fore wing dark olive-green, with a broad basal whitish blue-bordered band, crossed by a blackish-green streak; a discal recurved series of yellowish spots and a larger spot at end of the cell: hind wing with the base and a broad outer band black, the veins and marginal border blue; a series of yellow spots before the apex, which are indistinct in the male; middle band yellow. Thorax blue-black, lower part of abdomen yellow, tip black. Underside as above, veins blue-lined.

Exp. ♂ 2, ♀ $2\frac{1}{2}$ inches.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Most nearly allied to *E. Oede* from China.

Fam. Nyctemeridæ.

Dondera, n. g.

Fore wing elongate, narrow, costa arched, apex somewhat acute, exterior margin very oblique: hind wing long and narrow, extending beyond angle of fore wing, apex very convex, abdominal margin short. Body moderate. Antennæ long, slender, bipectinated. Palpi slender, porrect, naked. Legs long, slender, naked, middle and hind tibiæ spurred. Venation similar to that of *Nyctemera lacticinia*.

Dondera alba.

Female. Upperside pure white throughout both wings. Head, thorax, and palpi with black spots. Abdomen and body beneath pale ochreous, with broad, dorsal, black segmental bands and lateral spots. Underside uniform greyish brown, the cilia being white.

Exp. 2 inches.

Hab. Ceylon. In coll. F. M. Mackwood.

Fam. Arctiidæ.

Cretonotus continuatus.

Male and female. Upperside—fore wing ochreous, with an unbroken black streak extending from base below the cell to near the apex, a black streak within the cell and between all the upper veins, and a shorter streak from posterior angle: hind wing in male fuliginous, with darker maculated border, in female pale ochreous, with suffused blackish discal streaks, cell-spot, and darker black marginal spots; a broad black streak along thorax and short dorsal bands. Body ochreous above, brownish black beneath. Legs brownish black; fore and middle femora above ochreous. Underside of wings as above.

Exp. $1\frac{5}{8}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Fam. Liparidæ.

Artaxa citrina.

Male and female. Pale yellow; fore wing in male brighter yellow, and with a short oblique series of blackish-speckled spots from the middle of hind margin to beneath end of the cell. Abdomen bright yellow, tuft paler.

Female. Uniform pale yellow, without markings. Under-side—costal border bright yellow.

Exp. ♂ $\frac{5}{8}$, ♀ $1\frac{1}{8}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Artaxa cervina.

Male. Fore wing brownish ochreous, with two transverse median pale yellowish slightly wavy lines: hind wing pale brownish fawn-colour. Body brownish ochreous. Underside dark brownish fawn-colour, outer borders yellowish. Legs brownish above.

Exp. $\frac{6}{8}$ to $\frac{7}{8}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Most nearly allied to *A. varians*, Walker, but is a much smaller insect and of different-coloured wings.

Chærotricha decussata.

Female. Ochreous yellow, palest on hind wing and abdomen: fore wing very sparsely irrorated with prominent black scales; two indistinct grey recurved median bands crossing each other below the cell; a small black spot at end of the cell. Underside uniform ochreous-yellow.

Exp. $1\frac{1}{5}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Near to *Ch. plana* (*Artaxa plana*, Walker); distinguished by its smaller size and by the cross bands on the fore wing.

Fam. **Psychidæ**.

CHALIA, n. g.

Wings quite transparent, naked; abdominal border fringed with fine hairs: fore wing short, broad, arched at the base, rounded at apex and at posterior angle; cell broad, upper part longest; subcostal vein five-branched, the branches very short, first and second arising before end of the cell, fourth and fifth at equal distances from lower side of third, and terminating below the apex; discocellulars inwardly oblique, lower bent inward at half its length; discoidal veinlet emitted from angle of lower discocellular and anastomosing with subcostal near end of the cell; one radial emitted from lower end of upper discocellular; median vein four-branched, the two lower branches from before end of cell, curved, third at end of cell, fourth short and emitted at half the length of the latter; submedian vein recurved to two thirds its length, thence straight to pos-

terior angle, throwing off an upper branch: hind wing short, broad, rounded at apex and anal angle; cell broad; subcostal vein arched at the base, extending to apex; upper discocellular straight and erect, lower bent inward at its middle, and emitting a discoidal veinlet which extends to base of the cell; median vein three-branched; submedian and internal vein straight. Body slender, densely pilose, the hairs standing out in lateral tufts; abdomen extending beyond hind wings. Antennæ deeply bipectinated. Legs slender.

Chalia Doubledayi (type).

Oiketiscus Doubledayi, Westwood, P.Z.S. 1854, p. 235, pl. 34. f. 4.

Hab. Ceylon.

MANATHA, n. g.

Wings short, broad, covered with brown scales: fore wing trigonal; costal vein extending to beyond half of wing; subcostal vein five-branched, first and second branches arising from before end of cell, third and fifth at end of the cell, fourth from below third at half its length, and terminating at the apex; cell broad and cleft at its end; discocellulars long, upper bent inward at near its middle, and emitting from its end a discoidal vein within the cell, which extends towards its base and there throws off a lower short branch; lower discocellular very oblique; one radial starting from angle of upper discocellular; median vein four-branched, two lower branches from before end of the cell, the upper branch short and arising from the third, beyond end of the cell; submedian vein bent upward near base of the cell, sending forth a lower branch from half its length, which branch is also bent hindward, and has a second lower parallel branch or internal veinlet, to which it is joined at the angle by a short cross branch: hind wing slightly pointed at the apex, exterior margin rounded; costal and subcostal veins running parallel to below apex, and joined together by a short cross oblique branch before end of the cell; cell broad, short at its upper and long at its lower end; upper discocellular bent outward at its middle, from the angle of which starts the radial; lower discocellular long and parallel to end of the median; median vein four-branched, disposed as in fore wing; a straight submedian and two internal veins. Thorax rather broad, clothed with closely adpressed hairs. Abdomen attenuated, extending beyond hind wing. Antennæ short, bipectinated. Tibiæ clothed with long hair, tarsi nearly naked.

Type *Manatha albipes*.

Manatha albipes.

Male. Wings brown; body fuliginous brown. Antennæ and legs darker brown; tarsi pure white.

Exp. $\frac{9}{12}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood.

Habitaculum fusiform, small, silky, slightly covered with pieces of thin bark or lichen, the specimen under examination having the heads of six (or more) young [? parasitic] larvæ protruding from the upper end—one (the largest) from an extended sac in the middle, the others from separate sac-like openings below and around the upper one; from the lower end of this same example protrudes the empty pupa-case from which the male insect had escaped.

Fam. Lasiocampidæ.

Tagora murina.

Male. Upperside greyish fawn-colour: fore wing crossed by a darker upper broad, subbasal, curved, zigzag-bordered band, several discal narrow lunular lines, and a contiguous straight double outer line; the outer border of wing broadly greyish and dotted on the veins: hind wing crossed by a very indistinct darker discal lunular line and straight outer band. Underside brown, with indistinct lunular discal lines, outer straight narrow band, and submarginal dots.

Exp. 3 inches.

Hab. Ceylon. In coll. F. M. Mackwood.

Lebeda variegata.

Male. Upperside dark dull ferruginous brown. Cilia grey: fore wing with a broad basal and discal ochreous band, the former with zigzag border and variegated with brown wavy markings, a large oval upper patch, and a small pure white spot, the discal band with lunular brown inner border and zigzag black-spotted outer border, the interior being traversed by ferruginous lunular lines; middle of the wing and posterior angle suffused with grey. Thorax and front of head grey. Palpi, pectus, and legs blackish ferruginous. Anal tuft blackish. Underside darker ferruginous brown; both wings with two indistinct dusky oblique bands.

Exp. $2\frac{3}{4}$ inches.

Hab. Ceylon. In coll. F. M. Mackwood.

Fam. *Limacodidæ*.*Thosea cervina*.

Male. Upperside greenish fawn-colour: fore wing with a transverse discal narrow slightly curved dark brown band; a black spot at end of the cell. Underside uniform brown; a white spot at base of antennæ and on fore tibiæ.

Exp. $1\frac{2}{8}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood.

Belippa ferruginea.

Male and female. Ferruginous. Cilia purplish cinereous: fore wing washed with chalybeous scales at the base, disk, and the apex; crossed by a subbasal darker sinuous band, a black-speckled spot at lower end of cell, and a large white-speckled black spot at apex of wing: hind wing paler ferruginous, with a small black-speckled spot at apex, and a short streak at anal angle. Abdomen with a slight dorsal black segmental fringe. Underside paler than above, the black apical spot on fore wing prominent, those on hind wing less so. Tibiæ with a terminal black streak.

Exp. ♂ $1\frac{2}{8}$, ♀ $1\frac{1}{8}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood and F. Moore.

Fam. *Cossidæ*.*Zenzera nigra*.

Female. Black; both wings and thorax numerously speckled with white. Wings narrow, acute at the apex. Body long and slender.

Exp. $1\frac{4}{8}$ inch.

Hab. Ceylon. In coll. F. M. Mackwood.

XLVI.—On a Collection of *Lepidoptera* obtained by the Rev. S. J. Whitmee from Lifu (*Loyalty Group*), with Descriptions of the new Species. By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

THE present collection is interesting, not only as containing several beautiful novelties and examples of one or two of the rarer species of the Pacific Ocean, but from the close affinity of the butterflies to those of New Caledonia—many of the